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WISCONSIN AGRICULTURE

The Rise of the Dairy Cow

James I. Clark

The State Historical Society of Wisconsin



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JAMES I. CLARK

EVERY WISCONSIN FARMER knew that cows gave milk. He also knew that the wife and kids could make butter and cheese out of what the family didn't drink. The products could be traded at the country store, and bring maybe ten to twenty cents a pound.

But if someone had taken a farmer aside, before and during the Civil War, and said, "Look, why not make *better* butter and cheese and sell it all over the country and the world?" the farmer probably would have laughed. That took time and a lot of work. Why be tied to a cow? Wheat was the thing. It was easy to plant and harvest and the market was good. Who ever heard of making a living off old "bossy?"

So the farmer sowed more wheat and the price climbed until it topped two dollars a bushel. The kids chased the cows out of the woods, milked them, and the wife made butter and cheese. And in winter the cows stayed in the woods and "went dry."

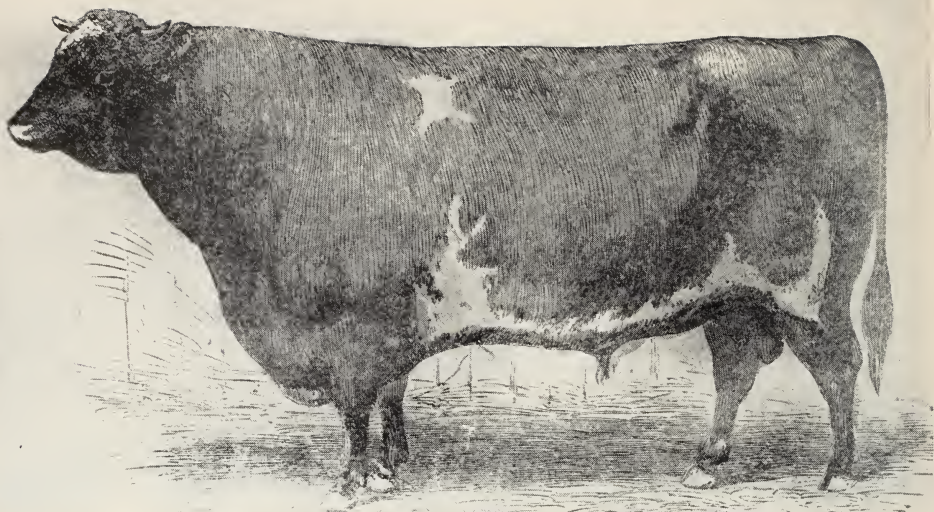
The major breed of cattle was a hearty mixture of all breeds and they all gave about the same amount of

milk. Calves were turned into five dollars a head in the fall. Principal butter and cheese markets remained local, although some butter got out of the state. It did Wisconsin's reputation no good. "Western grease" sold for five to six cents a pound. It was used on wagons and carts because people couldn't stand to eat it.¹

Commercial Dairying Begins

Now wheat was pretty hard on the soil and the crops grew smaller. The time was fast approaching when Wisconsin wheat farmers wouldn't have it so good. World output increased as the Civil War drew to a close, and fields in the western United States were coming into production. With the declaration of peace, less wheat was sold in the entire country.

For awhile, small fortunes were made from hops. A war tax on whiskey increased the production and sale of beer. Then, toward the end of the war New York and other hop raising states were visited by the hop louse, and their production



Paris, prize-winning Durham at 1858 State Fair.

fell. The East's misfortune was Wisconsin's gain, and farmer after farmer planted the grain.

Incomes were tremendous. By 1865 some people were getting \$800 to \$1,200 per acre of hops and living high. It looked liked prosperity had arrived to stay. It hadn't. Three years later the louse arrived in Wisconsin and Eastern fields were producing again. The market broke, and that was the end of hops.

After the war many Wisconsin farmers followed wheat to the greener fields of Kansas and the Dakotas. Others stayed and raised cash crops of sorghum, flax, sugar beets and tobacco. A few in the southeastern part of the state became interested in serious dairying.²

Chester Hazen of Ladoga, in Fond du Lac County, opened a cheese factory in 1864, purchasing milk from near-by farms. After five years Hazen had an annual output of al-

most 200,000 pounds. That netted him about \$4,000 after expenses of around \$18,000 each year.

The idea caught on. Delivering milk to a factory became a good sideline. Soon it was observed "that our farmers . . . within the range of the Cheese factories are so anxious to turn their milk into money that they are in the habit of killing off their calves at a day old, or at latest as early as their hides will be salable." In Jefferson County it looked for awhile as though the number of cheese factories would outrun the supply of milk.

Still, it was just a sideline. Farmers as a group didn't suddenly wake up, look around at the wonderful grasses, favorable climate and pure waters of Wisconsin and say, "This is a natural dairy state." It might have been a natural, but it wasn't apparent at that time.³

By 1870 Wisconsin had perhaps

forty or fifty cheese factories. New York, the leading dairy state of the nation, had over nine hundred.

New York had long been the most important dairy state, supplying a national and a world market. In the 1850's factory cheese making began in Herkimer County and the method spread rapidly. Farmers brought milk to a central plant where it was made into cheese by the owner or by a cheesemaker hired by the participating farmers. When cheesemaking became the major occupation of one person, and one hundred or more cows contributed milk, it could be said that a commercial factory system existed.

New York was a dairy leader in other respects. There attention was first given to improving cattle breeds, and to better ways of manufacturing and marketing. Articles on scientific and business-like dairying appeared in such magazines as the *Rural New Yorker*, which acquired a nation-wide circulation and influenced other regions to try new methods of dairying and general farming. The magazine ran pictures of outstanding herds and exceptional barns and dairy plants, which inspired farmers in other parts of the country.

Fortunately for Wisconsin, between 1837 and 1850 many New Yorkers looked for new homes. A lot of them settled along the western shore of Lake Michigan. They brought dairying know-how with them, and with a near market in Milwaukee and Chicago put their skills to good use.

There was no sudden boom for dairying, but those Yankees who engaged in home butter and cheese

making did well with it. They were the first to take up the factory system in Wisconsin, also. Chester Hazen was a New Yorker, and his plant at Ladoga was patterned after those of the Empire State.

Dairymen with an Eastern background were the first to form associations. In 1867 Wisconsin dairymen joined their near neighbors and organized an Illinois and Wisconsin group. Soon a Fond du Lac County Dairymen's Association was formed and a few months later one began in Jefferson County. The next step was a Wisconsin Association.⁴

Marketing Problems

Education and exchange of information were the objectives of such organizations. Annual conventions became "experience meetings," at which various members related some new idea or experiment and others asked questions and criticized. Papers read at one such meeting later included "Winter Care of Cow and Calf and Small Farm Management," "How I Manage My Dairy and Dairy Farm," and "What Shall We Do To Improve the Breed of Dairymen?" Associations organized fairs, and members got local merchants to offer prizes for outstanding dairy products and livestock.

The cheese market was one of the first problems tackled by the associations. Western sales centered in Chicago, where a large, soft, colored cheese went best. Unfortunately for Wisconsin cheesemakers, a great many people produced that kind. Gradually lowering prices resulted. By 1872 a pound was worth only about eight cents.



Chester Hazen

To break into the bigger Eastern market, Wisconsin producers had to make a lighter, smaller, harder cheese. That could be done, but there was still the problem of getting it to market. Dairymen got a break there.

In the late 1860's railroads had adopted the through freight system—sending a load of goods to its destination without changing cars. About 1871 the refrigerator car arrived. Representatives of the Wisconsin Association persuaded Chicago railroad men to grant them special freight rates East. Then it was possible to ship rapidly at little cost, and Wisconsin dairy products could even compete on the European market with those from New York.

To develop the market a dairy board of trade was organized at Watertown, Wisconsin, in February 1872. Regular dairy days were scheduled, and cheesemakers and whole-

sale dealers met to sell and buy. Wisconsin thus established direct contact with Eastern and European markets. Within a few months four hundred pounds of cheese were sent to London from Watertown. The idea was copied in Kenosha and Sheboygan Falls. Wisconsin dairymen were on the way to tapping a world market.

Home dairies were still the main centers of butter production. Yet the dairymen's associations attended to the improvement of that commodity also. A representative of the Chicago butter market spoke at the 1871 meeting of the Jefferson County Dairymen's Association, lending advice and information on production, packaging and shipping. "Shades of difference and slight faults amounting to three or four cents in selling value, may be detected by comparing several fine lots placed in contact, each of which would pass by itself as extra choice," the dairymen learned.

From another source they were advised not to be satisfied with

a fair medium grade, but endeavor to acquire an individual reputation for making A No. 1 butter. Dealers in the cities assure us that those farmers who make *only* good butter, and thus acquire a city reputation for the excellence of their make, can always command, in the dullest times, a profitable advance over the general market.

Education Problems

Wisconsin dairy products were displayed at national exhibitions. At the 1876 Centennial Exposition in Philadelphia, Wisconsin cheese and butter rated second only to New York's.

The high position of Wisconsin cheese was acclaimed by local dairymen, although, pointed out one enthusiast, "Of course we do not mean all Wisconsin cheese, for there are a few factorymen in this state who do not believe in Associations and have no disposition to learn."⁵

Educating the factorymen was not the main problem, however. Usually they were quick to see the relationship between good methods, good products, and profits. The important factor in the dairy chain from cow to consumer was the farmer. And the farmers to be educated were in many cases not the original settlers of the land.

When wheat declined many Wisconsin settlers from New York and New England moved to the Dakotas and Kansas. They either abandoned their farms or sold them to incoming European immigrants. The Europeans had a different attitude toward the land.

Norwegians, Germans, Swiss, Bohemians and others were not the roving type. They came from a culture that valued the land as something to hand down from generation to generation, and to improve whenever possible. They were not ones to pick up and take a chance on something over the hill, as the Yankee farmers often were. Yankees were the ones to think up new methods of dairying, and eagerly adopted ideas that promised to make money; the Europeans were more conservative, moved more slowly and took fewer chances. Yet once they adopted better methods, they refined them and made them permanent features of Wisconsin agricultural practice.

Such farmers were naturals for dairying. They didn't mind being "tied to a cow," as Yankees often did, especially if there were easier ways to make money, such as raising wheat. Milking twice a day, preparing the milk or its products for market were all in a day's work to the incoming Europeans. Except for an occasional folk holiday, they didn't crave vacations, either.

With cheese, Yankee dairymen and many European immigrants concentrated on English cheddar. The Swiss developed Swiss and Limburger.

Not all Yankees sold out and went West, of course. Not all Germans, Norwegians and others became dairy farmers. But enough Yankees did leave, and enough Europeans did eventually take up dairying for one to say that one group provided the know-how—factory methods, improved breeding, better market analysis—and the other put the knowledge into practice.⁶

Problems of educating farmers to the new dairying were many. They had to be weaned from wheat, and convinced that cows were profitable. They had to be shown that breeding better cattle made for bigger money. They had to accept the necessity of preparing their milk for market in a clean place. They had to be helped over the obstacles presented by winter feeding. Education agencies were dairymen's conventions, county and state fairs, and various newspapers.

Dairymen's conventions were held in a different place each year, often in an area where dairying was not especially popular. Throwing meet-

ings and exhibits open to all the associations spread the good word, and by talk and good example made converts. At the county and state fairs products and the best examples of good dairy cattle were prominently displayed. But for year-round, hard-hitting propaganda nothing was so good as a newspaper farmers read.

William Dempster Hoard

A man named William Dempster Hoard came to Wisconsin in 1858. He had been born in New York and knew a little about dairy farming. In Wisconsin he cut wood, conducted singing schools, was a travelling salesman for a pump manufacturer, and fought the Civil War before getting to the work that was to make him known far and wide.

Returning from the war, Hoard noticed the large hop fortunes being made, and went into the business himself. He was a little late. All he got was a \$2,000 debt and a question of what to do next. After a stint at selling musical instruments he decided to start a country newspaper. He also started the biggest selling job of his life.

Hoard set up shop in Lake Mills. The first issue of the *Jefferson County Union* came out in March 1870.

The *Union* became the official paper of the Jefferson County Dairy-men's Association and Hoard was made the Association's first secretary. Many columns of the paper were devoted to dairy news and propaganda. New ideas and information from farmers, dairy articles culled from other papers, news of conventions, fairs, and meetings of the

dairymen's associations all found space in Hoard's paper. Latest improvements in dairying in other regions, especially in New York, were held up as examples to follow in Wisconsin. The cheese, butter, hog, beef, hay, hops and pork markets were faithfully reported. Soon farmers were writing Hoard for advice on various aspects of dairying. He had to start a farm of his own to find some of the answers.⁷

The dairy feature eventually got so big that it had to be published as a separate sheet. In 1885, *Hoard's Dairyman* was born. It rapidly became the Bible of the dairy farmer, in Wisconsin and in other states.

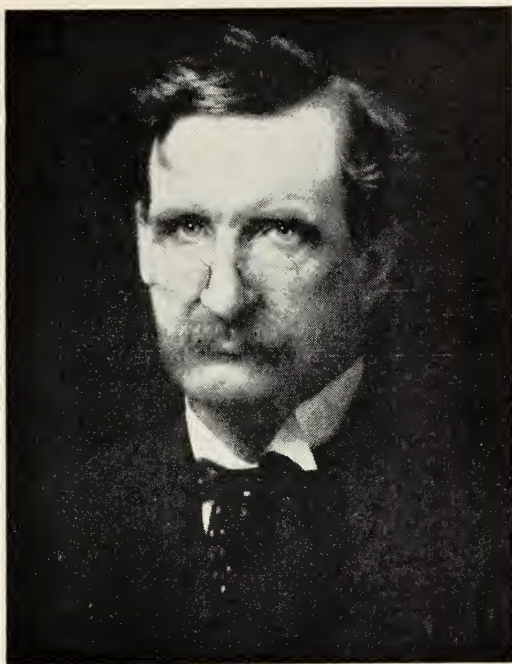
We shall give the choicest original and selected dairy literature to be obtained on the Continent, as well as a wide range of market reports. We have arranged with several of the most practical dairymen of the Northwest for frequent contributions from their pens. . . .

ran the opening editorial in the January 23, 1885 issue. All that could be had for just one dollar per year, and a liberal discount was offered for group subscriptions.

Identifying himself with progressive dairying made Hoard known all over the State of Wisconsin and the Middlewest. That probably helped elect him Wisconsin's Governor for one term in 1889.

Hoard had convictions, and didn't mince words about them. He believed in dairying—scientific, business-like dairying. Speaking of the Wisconsin farmer in general he wrote in his paper,

The moment you talk to him about any other way of making



William Dempster Hoard

the farm pay he truthfully feels that he is all afloat. What is needed is pluck to break through his half hatched state of irresolution and make a beginning somewhere and somehow. The dairy business may be overdone, but we would like to see one intelligent, energetic dairyman who ever became bankrupt thereby. Can you say as much for wheat?

One of Hoard's pet projects was to persuade the farmer to keep records and to keep up-to-date on sound dairy practices.

We dare say our readers will remember that we have made the statement that BRAINS pay in dairying. A great many farmers who keep cows and are nominal dairymen, don't believe it, but we guess it is so. At any rate, we notice that the only men who get

the largest results from their cows are men who keep posted in dairy matters. All who have read the butter sales published in this department from time to time, have noticed that C. P. Goodrich gets very good prices for his butter. At our request he has furnished us the following statement of the proceeds of his dairy of 14 cows . . . to which we invite candid attention.

Mr. Goodrich had, with good methods and record keeping, increased his annual income per cow from \$15 to over \$49. That, thought Hoard, was proof enough of the value of science and business on the dairy farm.⁸

One of the longest and sharpest controversies Hoard and other dairymen got into involved the question:

Which cow was best, the one bred for beef and milk, or the one bred for milk alone? The result of the battle was very important to the future of Wisconsin dairying.

Hoard and some others thought the continued success of dairying depended on breeding a cow that would produce milk to the exclusion of other features such as beef. Others were equally convinced that more and steadier money would result from a cow that produced *both* milk and beef. That side was represented by a farmer who talked with Hoard, as reported in the *Union*:

Not long since a farmer who keeps a herd of 40 cows, and furnishes milk to a cheese factory, informed us that he was about to buy a Hereford bull. We very naturally inquired if he was going out of the dairy business. He replied, "O! no; but I thought I would like to increase the size of my cows, as they would make more beef when they get through giving milk."

"General Purpose Nonsense," snorted Hoard. If a farmer wanted good butter, let him improve his herd with Jerseys or Guernseys. If he wanted cheese, he should grade up his cows with Holsteins or Aryshires. But "a *little* butter, a *little* cheese, and a *little* beef, and the result is a cow whose main product is littleness all around," said Hoard.

Let us swing out of this and commence to be dairymen in good earnest. The sooner we do it, the more money, good sense and general understanding of what we are capable, will we have. There isn't a single boy . . . who would go hunting foxes with a bird dog or

would hunt birds with a foxhound. . . . I venture the opinion that there are a whole lot of dairy farmers in this state who are hunting butterfat with a beef animal.

When beef prices rose in the early 1880's and again in the '90's it was especially hard to convince dairymen that they should stick with a straight milk cow. Many farmers in Iowa and Minnesota switched to beef raising, but single-purpose advocates managed to hold the line in Wisconsin. By the end of the century most dairymen agreed that beef production should be left to the specialists of the Western plains.⁹

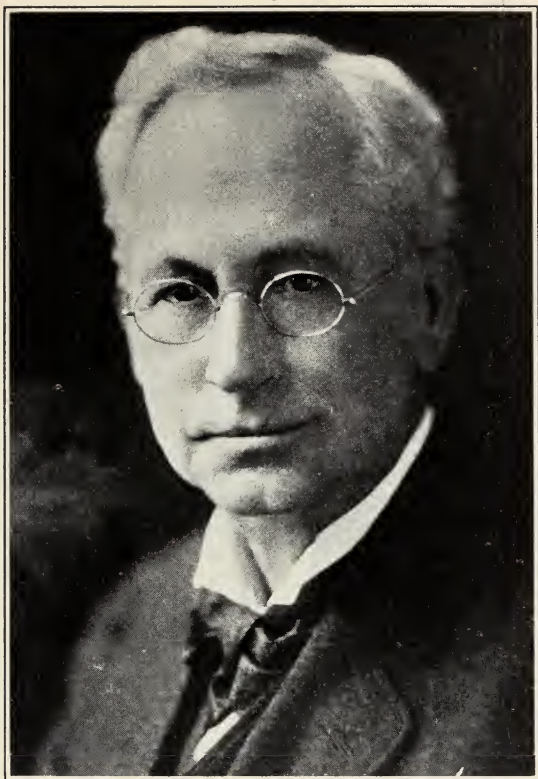
The College of Agriculture

Perhaps a sure and easy butterfat test would have convinced them earlier. There were a good many tests available, but they took time to use and usually had to be handled by people trained in chemical analysis.

The need for a good test had long been apparent. At a Wisconsin Dairymen's Association meeting in February 1889, a speaker asked, "Why should I try to produce milk of a high test to pool with that of poor qualities or to produce cream that has two or three times the money value of my neighbors and then sell it at the same price?" Why indeed?

About that time a man at the Agricultural Experiment Station of the University of Wisconsin got interested in the problem of testing milk for butterfat content. His name was Stephen A. Babcock.

Until around 1885 the Department of Agriculture at the Univer-



William A. Henry, first Dean of the
College of Agriculture

sity hadn't amounted to much, as far as most farmers were concerned. And there were those who figured it never would. The University had been established in 1849, but it wasn't until 1868 that a Professor of Agriculture was hired and a department created. A three year course, later changed to four, was established, but there were few who took it.

The formal education of farmers was not considered especially important. Many felt the best farmers were mostly illiterate, and spent little time reading. Being part of the Uni-

versity put the Department of Agriculture in the shadow of more respected professions, such as law and science. Farmers tended to be a little suspicious of the value of sending their boys there. One didn't learn farming from books anyway. If a person wanted to farm he got some land started to work; he didn't need a college degree. If he had that he probably wouldn't stay on the farm.

With some help from the Dairymen's Association an Experiment Station was set up in 1883. Those in the agricultural department experimented on growing crops, feeding,

breeding livestock, and so forth. They had plenty of time for that—there were few students to teach.

In 1885 a strong movement developed to take the Department of Agriculture from the University and establish it where it would have more contact with and value for farmers. The Legislature seriously considered moving the department to Ripon, Wisconsin.

At that point William F. Vilas, Democratic member of the Legislature from Madison and E. W. Keyes, Republican “boss” of the city and a member of the University Board of Regents, came up with an idea. Why not set up a course that would be geared directly to farmers’ problems and given at a time when there was not much doing on the farm, say for twelve weeks or so during the winter months?

With political pressure in the Legislature they defeated the Ripon bill, and with personal pressure on W. A. Henry, then Professor of Agriculture, the agricultural short course was born. By keeping farm courses a part of the University Vilas and Keyes did the institution a great service. Those courses were to become one of the main props of popular support for the entire University, and were to point the way for other state-wide services.

The objective of the short course was to give farmers some experience with scientific agriculture so they could put it into practice back home. Nineteen students enrolled the first year. With only a few dips the numbers continued to increase over the years, and the course was lengthened to fifteen weeks. The experiment in

direct vocational education rapidly proved its usefulness around the state. The effects of modern farming methods applied by short course graduates soon became apparent.

The influence of the Department of Agriculture was only beginning. In 1889 the Department became the College of Agriculture and the faculty was increased.¹⁰

The Butterfat Test

That was where Stephen A. Babcock came in. His main problem with the butterfat test was to find a chemical that would dissolve all the solids except butterfat in a milk sample.

After several experiments he thought he had a solution, and the test worked well on a large number of samples. “His new test gave the same results as the older, more complicated ones that the scientists had been using,” wrote a man who knew Babcock well.

Time and again he tried it on the milk of the cows in the University herd and each time the new test checked with the old—until he came to Sylvia. That cow was merely a grade Shorthorn, but she was “different.” Her milk did not test like that of the other cows. The readings on the new test did not correspond to those on the old.

Babcock was urged to publicize the test anyway. One cow in a herd of thirty was no serious exception. But Babcock was a scientist. He wanted a test with *no* exceptions. Back to the laboratory he went.

Finally, early in 1890, the correct process was found. “I discovered that sulphuric acid, added to the milk



Stephen A. Babcock and first butterfat tester.

sample, would render soluble all the milk solids not butterfat, while the heat involved in the mixture melted this fat, allowing it to rise to the surface," he wrote. When the mixture was subjected to a slight centrifugal force, swung around in a circle in an old cream separator converted for the purpose, the fat gathered in the neck of the sample bottle. There it could easily be seen and measured. The test was simple, could be conducted by any careful person, and took only about five minutes to perform. Now the milk from any cow could be tested and graded accordingly and experiments on how to increase butterfat could

continue with assurance of an exact measurement of results.

After about 2,000 tests the process was reported in a bulletin from the College and reprinted in various papers. *Hoard's Dairyman*, like the Associations and dairymen all over the state, was enthusiastic. "We sincerely hope the Doctor has 'struck it,' " wrote Hoard.

Babcock had indeed "struck it," as the following years proved. Although refinements were made in the apparatus, the essential part of the test, the mixture of the elements, remained the same.

Urged on every side to patent the test, Babcock steadfastly refused. He

had been hired to do a job. The test belonged to his employers, the people. The test remained for anyone to use, and it rapidly was put into operation in creameries and cheese factories all over the world. Some have called it and the cream separator the two most important discoveries in the dairy industry.

Now high quality milk could be separated from the low to make better cheese and butter. No longer could a farmer "grade up" his milk to get a higher price. "The Babcock Test can beat the Bible in making a man honest," said a creamery owner. "I have quoted Scripture to my patrons for years and it never moved them an iota, but this test has brought them to time in less than a month." ¹¹

Other Experiments and Services

In 1891 the College of Agriculture added another feature geared directly to practical results—the dairy course. A dairy building went up and immediately filled to capacity. The new classes proved initially more popular than the short course.

Slanted to the factory and creamery men, the dairy course consisted of instruction in the latest tests for dairy products, new methods of making butter and cheese, and above all hammered on the necessity for sanitation in processing milk. Before the 1891 course was over there were forty applicants for the next session. So it went, beyond the turn of the century. Such numbers were not impressive, except in comparison to the few students who had taken agriculture courses in former years. More impressive was the influence of the dairymen graduates.

Those completing dairy courses had no difficulty finding jobs in creameries and cheese factories. Often there were more jobs than men. Sometimes farmers paid expenses for students to attend the courses and were repaid in the production of better butter and cheese. W. D. Hoard declared that "if every cheesemaker in Wisconsin could have the benefit of even one term in the Dairy School the value of the state's cheese product would be increased 15 to 25 per cent. Hard to prove, perhaps, but indicating that the school had rapidly established a good reputation for turning out well-trained operators.

The College also established Farmers' Institutes, providing suggestions and information on dairying and general farming at one and two day meetings about the state. Itinerant factory instruction was given at cheese production centers in various communities. Various kinds of feeds and grasses were grown and tried out.

The College of Agriculture attacked other dairy problems. Professor Babcock made another notable contribution with his cold curing process for cheese. For years dairy associations harped on the fact that almost all curing rooms were so hot and dry that most cheese went to market badly cracked and with high flavors, some of them not so tasty. After arriving at market the cheese went through hot warehouses and cold-storage bins and back into hot grocery stores. The product purchased by the housewife often was not a good one. Yet no one had found a better method of curing cheese.



Short course students judging stock.

Babcock's experiments indicated that something called enzymes rather than bacteria in milk caused cheese to cure, or become solid. That being the case there was no need to have the mixture hot so bacteria could work. It was found that a temperature of about 50 degrees or even lower was best. The result was a considerably better cheese for markets of the world.¹²

Agriculture professors had already done some work on the problem of winter feeding. The problem was important to the development of dairying, as without an economical winter feed dairying couldn't be a year-round business. Cows went dry in the fall, and cheese factories ran usually only from April to November. Various ways of storing grasses and other cow feed were tried, but it wasn't until the late 1870's that the real solution was found.

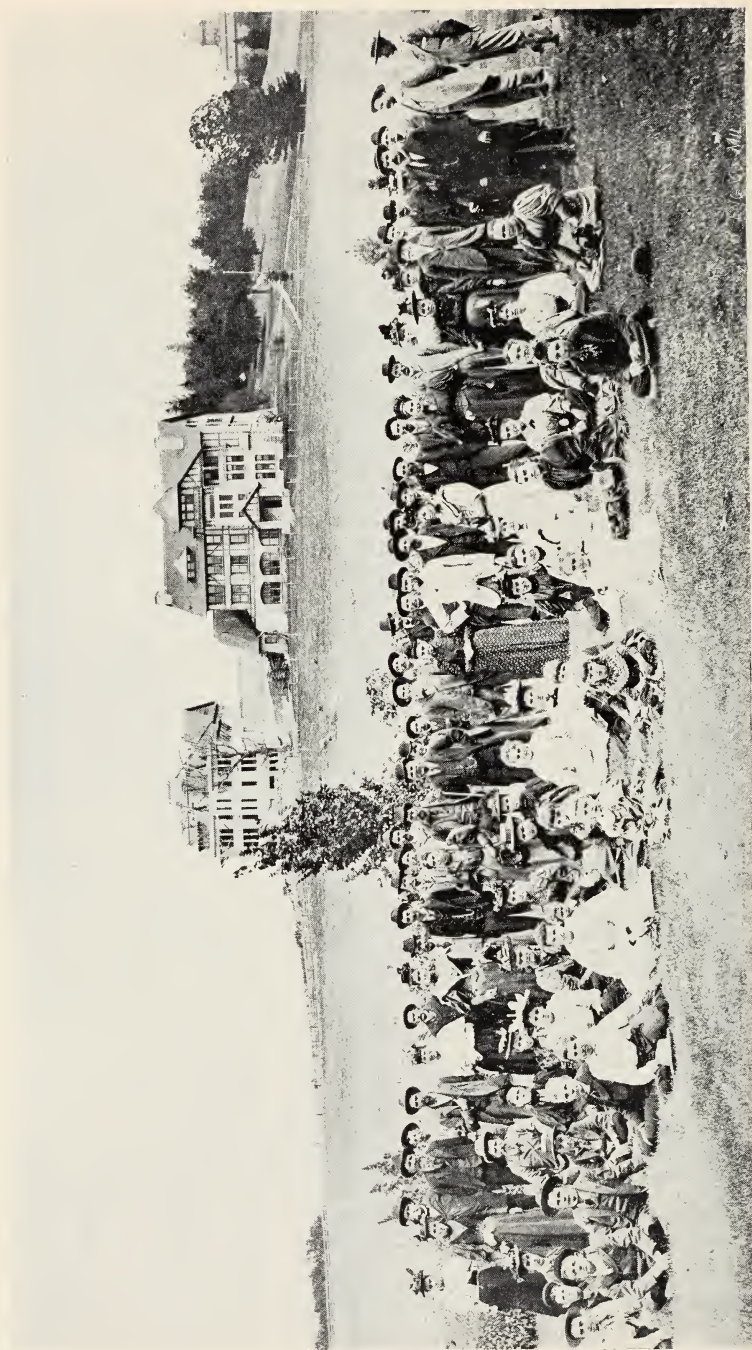
In Germany and France during the 1860's farmers had taken to digging deep pits in the ground for storing cornstalks. The material preserved very well and could be used

all winter. The idea was imported into the United States under its French name *ensilage*, or to Americans, just plain silage.

First Wisconsin silos were pits about six feet deep, twelve wide and thirty-two long. Not until the late 1880's did the silo become attached to the barn and extended into the air, first square and then the more familiar round structure.

Silage not only provided winter feed, but also offered a more economical use of the corn crop. The cost of wintering cows was reduced and the method boosted the invention and manufacture of silage cutting machinery.

Farmers didn't fall over one another building silos, however. Those who had them usually got laughed at. Any number of arguments were advanced against the use of silage. Some said it made cows lose their teeth, others that it would eat out their stomachs and make their tails fall off. Some were sure it affected the quality of the milk and caused trouble at calving time. Swiss



Farmers' Institute picnic on College of Agriculture campus. Main (Bascom) Hall on right. In the foreground, present Soils Building on left, Hiram Smith Hall on right. Probably taken in 1890s.

cheese makers in Green County blamed silage for gassy cheese and wouldn't accept milk from cows that ate it. Doctors blamed milk from silage-fed cattle for meningitis in children.

The cows themselves were rather suspicious at first. A silo was constructed and filled at the University in August 1881. In November it was opened and the cows introduced to the new food.

Upon being offered the ensilage, three out of twelve farm cows refused to eat it. Those that ate seemed puzzled over it, and showed plainly by their cautious mincing manner that they could not quite understand what it was. Those that refused it entirely at first, soon fell to tasting it, and after four or five feeds they all ate it as naturally as hay.

The first comparative feeding test was a trial between the new feed and meadow hay. The results favored the silage. In 1888 there were only 91 silos in the entire country. By 1905 Wisconsin alone had 716. Yet not until the period 1910 to 1925 did the silo become an accepted part of the Wisconsin farm landscape. The cows adapted themselves to silage more quickly than did those who tended them.¹³

The Dairy Situation in 1910

Even though dairying had been given a firm scientific base and many problems of production and distribution solved, there were other obstacles to overcome. Dairymen found legal aid necessary to overcome some of them. Getting laws favorable to dairying demonstrated that the in-

dustry had attained some power in Wisconsin, and showed that the people and their legislators felt they had something worth protecting. The same was true in other states where dairying was important.

Toward the end of the century, competition from other products became severe. One was "filled cheese."

Filled cheese was cheese with the original butterfat replaced with animal or vegetable fat. The butterfat saved could be used to make butter and thus increase profits. The idea was so attractive that before long there were around 250 Wisconsin factories making filled cheese.

Unfortunately for regular cream cheese makers, the filled variety tended to spoil rapidly. People in other parts of the country came to associate filled cheese with Wisconsin, and also tended to lump all Wisconsin cheese in that category. The market began to slip away.

Dairymen appealed to the Wisconsin legislature. During W. D. Hoard's term as Governor a Dairy and Food Commission was established, aimed at regulating such things as filled cheese. Finally, in 1895, its manufacture was outlawed entirely. Then dairymen concentrated on winning back the national cheese market.

Another problem not so easily solved, was oleomargarine. Oleomargarine had been around for quite awhile, but until Wisconsin's butter sales climbed no one got excited about the substitute.

Some manufacturers called their product "butterine," probably under the impression that anything spread on bread could have the word butter



The modern *Hoard's Dairyman* Farm, Fort Atkinson.

in it. Dairymen disagreed. To them butter was made from milk and cream only, and they contended that oleo masqueraded at a cheaper price under the yellow dress of butter, rather than being on its own, colorless, merits. Dairymen wanted something done.

Dairy interests got a 2¢ federal tax on oleomargarine in 1886 and a law requiring it be labeled as such. That didn't help much. The product still sold well and restaurants often colored oleo and served it without mentioning its name.

Wisconsin outlawed its sale as a colored product, but had trouble enforcing the law, although the Dairy and Food Commission worked hard at it. Other dairy states had similar protective laws.

Shortly after 1900 Wisconsin Congressmen were at work on additional federal legislation, aimed at increasing the oleo tax to 10¢ a pound. It was hoped that both the cost of production and the price to the consumer would thus be increased. Then

either manufacturers would quit making it, as profits would be reduced, or the price would be forced up near on a par with that of butter, and people would buy butter instead.

The battle was by no means over then. The manufacture of oleomargarine continued and dairymen in Wisconsin and other states continued to fight it with every legal weapon at their command.¹⁴

Even with such competition, the dairy industry was doing all right. Between 1860 and 1890 the cow population of Wisconsin had more than tripled, from about a half million to over 1,600,000. The percentage of what could be called dairy cattle had also gone up. Shortly after 1900 it was said that the annual earnings of Wisconsin cows was at least \$35 million, out of a national annual product of milk, butter and cheese of \$700 million.

Hard-working cows had brought a measure of prosperity and a sound economy to Wisconsin, as to other areas in the country where dairying was a major occupation. Jefferson



Modern herd of Holsteins.

County, Wisconsin, was cited as an example. In 1870, wheat had reduced the fertility of the soil and land was worth about \$20 an acre. Then farmers took up dairying. About 1905, W. D. Hoard pointed out that

Today this is in many respects the wealthiest county, agriculturally speaking, in the State. . . . Its cows earn annually nearly two millions of dollars. It has nearly 100 creameries, making over 7,000,000 pounds of butter annually. . . . The county is covered with splendid herds of high-grade cattle, and fine barns greet the eye in every direction. The fertility of the land has increased to such an extent that the average yield of wheat now is twenty-one bushels per acre. The land produces larger crops than it did in its virgin condition.¹⁵

The thirty years from 1870 to 1900 had brought many changes to the Wisconsin farm picture. The good grasses, the pure water, had been put to work. What had made the change? Yankee ingenuity, curiosity, desire for betterment. A hard-working, persistent crop of European immigrants who learned how to run dairy farms. The vision and faith of the dairy association men, who believed in scientific agriculture and kept hammering away on that theme. A College of Agriculture which became vitally important and rendered real service to farmers with dairy schools, short courses, and scientific experiments. All those together made the Wisconsin farmer something of a business man, something of a scientific agriculturalist. They made Wisconsin the leading dairy state.



NOTES

¹ Material on early dairying from Joseph Schafer, *History of Agriculture in Wisconsin* (Madison, 1922), 150-53; Frederick Merk, *Economic History of Wisconsin During the Civil War Decade* (Madison, 1916), 22.

² Merk, *Economic History*, 30-42.

³ *Ibid.*, 23-24.

⁴ Schafer, *History of Agriculture*, 154-55; George W. Wooley, "A Genetic History of Cattle in Wisconsin," Wisconsin Academy of Arts, Science and Letters, *Transactions*, 30:131-71 (1937).

⁵ On dairy associations, Schafer, *History of Agriculture*, 113-14, 157 fn.; Wilbur H. Glover, *Farm and College* (Madison, 1950), 69-79; *Jefferson County Union*, March 10, November 10, 1870; February 2, 23, April 12, June 28, July 5, August 30, 1872; *Hoard's Dairyman*, March 6, 1885.

⁶ Joseph Schafer "The Yankee and the Teuton in Wisconsin," Wisconsin Magazine of History, 6:125-45, 261-79 (1922-23).

⁷ George W. Rankin, *William Dempster Hoard* (Fort Atkinson, Wisconsin, 1925), 1-67.

⁸ *Hoard's Dairyman*, January 23, 1885.

⁹ *Ibid.*, February 27, September 4, 18, 1885; Glover, *Farm and College*, 170-71; Wooley, "History of the Cow," 17; Rankin, *Hoard*, 152-54.

¹⁰ Glover, *Farm and College*, 86-137, 229-33.

¹¹ *Ibid.*, 81-120; Rankin, *Hoard*, 163-64.

¹² Glover, *Farm and College*, 123-25, 177-78. 228-30.

¹³ *Ibid.*, 178-80; N. S. Fish, "The History of the Silo in Wisconsin," *Wisconsin Magazine of History*, 8:160-70 (December, 1924).

¹⁴ On filled cheese and oleomargarine, Rankin, *Hoard*, 176-78; Glover, *Farm and College*, 85-86.

¹⁵ "Your Share of \$700,000,000 and How to Get It" (Fort Atkinson, Wisconsin, 1905).

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A considerable amount of material on Wisconsin dairying can be found in Joseph Schafer, *A History of Agriculture in Wisconsin* (Madison, 1922). Schafer's article, "The Yankee and the Teuton in Wisconsin," *Wisconsin Magazine of History*, 6:125-45, 261-79. (1922-23), discusses the influence of people from eastern United States and from Germany on dairying and on Wisconsin agriculture generally.

The only known biography of William Dempster Hoard is that by George Rankin, published in Fort Atkinson, Wisconsin in 1925. It is not a critical work, but does contain some useful information on the man.

Wilbur H. Glover, *Farm and College* (Madison, 1950), is an excellent history of the College of Agriculture at the University.

There are a number of articles in Society publications on the Swiss in New Glarus and their cheese making activities. Most extensive is John Luchsinger, "The Planting of the Swiss Colony at New Glarus," State Historical Society of Wisconsin *Collections*, 8:411-39, 12:335-82. Another article, which does little more than repeat Luchsinger's work, is J. Q. Emery, "The Swiss Cheese Industry in Wisconsin," *Wisconsin Magazine of History*, 10:42-52 (September, 1926). There is also an article by Emery, "The Wonderful Story of Wisconsin's Dairy Industry," in *Wisconsin Bluebook*, 1925: 297-307.

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